

INTERNATIONAL SEARCH REPORT

International Application No
PCT/IB2004/002330

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 B67B3/20 B67B3/28

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 B67B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 535 583 A (MURANAKA SHIARU ET AL) 20 August 1985 (1985-08-20) column 3, line 61 - column 5, line 21; figure 2	1-4, 6
A	EP 0 863 106 A (SHIBUYA KOGYO CO LTD ; TOYO SEIKAN KAISHA LTD (JP)) 9 September 1998 (1998-09-09) column 9, line 42 - column 10, line 4; figures 7-9	1
A	US 4 299 072 A (HOLSTEIN JOHN H) 10 November 1981 (1981-11-10) column 5, line 56 - line 65; figure 1	1
A	DE 202 18 523 U (KHS MASCH & ANLAGENBAU AG) 6 March 2003 (2003-03-06)	

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- * & * document member of the same patent family

Date of the actual completion of the international search

21 September 2004

Date of mailing of the international search report

29/09/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Wartenhorst, F

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/IB2004/002330

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 4535583	A	20-08-1985	JP 1612818 C	30-07-1991
			JP 2027235 B	15-06-1990
			JP 59062487 A	09-04-1984
			JP 59062488 A	09-04-1984
			DE 3336041 A1	05-04-1984
			FR 2533903 A1	06-04-1984
			GB 2129409 A ,B	16-05-1984
			KR 8602105 B1	26-11-1986
EP 0863106	A	09-09-1998	JP 10245096 A	14-09-1998
			JP 10245097 A	14-09-1998
			DE 69800225 D1	31-08-2000
			DE 69800225 T2	25-01-2001
			EP 0863106 A1	09-09-1998
			KR 241092 B1	02-03-2000
			US 5809742 A	22-09-1998
US 4299072	A	10-11-1981	NONE	
DE 20218523	U	06-03-2003	DE 20218523 U1	06-03-2003
			EP 1424307 A1	02-06-2004